

We Claim:

1. An apparatus for swaging and shaping a saw blade comprising:
 - a swaging assembly in communication with the blade positioning and transport mechanism and including an anvil surface adapted for engaging a top surface of a saw tooth, opposed members for clamping the saw tooth, an eccentric rotatable swaging die for swaging the saw tooth, and a sensor for detecting a predetermined rotational position of the swaging die;
 - a shaping assembly including opposed operable shaping dies having blade shaping surfaces and operable to engage and form opposed side surfaces of a saw tooth into predetermined shapes;
 - a blade positioning mechanism in communication with the swaging assembly and with the shaping assembly, and operable to sequentially position in a first position in the swaging assembly with the saw tooth top surface adjacent the anvil surface, and to then reposition the saw tooth to a second position in the shaping assembly between the shaping dies; and,
 - a control mechanism in communication with the swaging assembly and the shaping assembly and operable to position the saw tooth in the swaging assembly, to rotate the swaging die into contact with the saw tooth, to detect a predetermined rotational position of the swaging die, to move the saw tooth from the swaging assembly to the shaping assembly and operate the shaping dies.
2. An apparatus according to claim 1 further comprising the swaging assembly including an arm mounted on the swaging die, limit switches engageable with

the arm and in communication with the control mechanism and operable to generate a control signal in response to engagement with the arm,

3. An apparatus according to claim 1 further comprising the swaging die including at least one position indicator indicating the rotational position of the swaging die, and a sensor in communication with the swaging die and the control mechanism and operable to generate a control signal responsive to detection of a predetermined portion of the machine readable position indicators.

5. An apparatus according to claim 5 wherein the machine readable position indicator is a machine readable visual position indicator.

10 6. An apparatus according to claim 5 wherein the machine readable position indicator is a magnetic position indicator.

7. An apparatus according to claim 6 wherein the magnetic position indicator comprises at least one groove formed in the swaging die and a magnetic material disposed within the at least one groove.

15 8. An apparatus according to claim 1 further comprising the swaging assembly including a clamping mechanism operable to fix the saw tooth in position in the swaging assembly.